

Great Decisions 2021

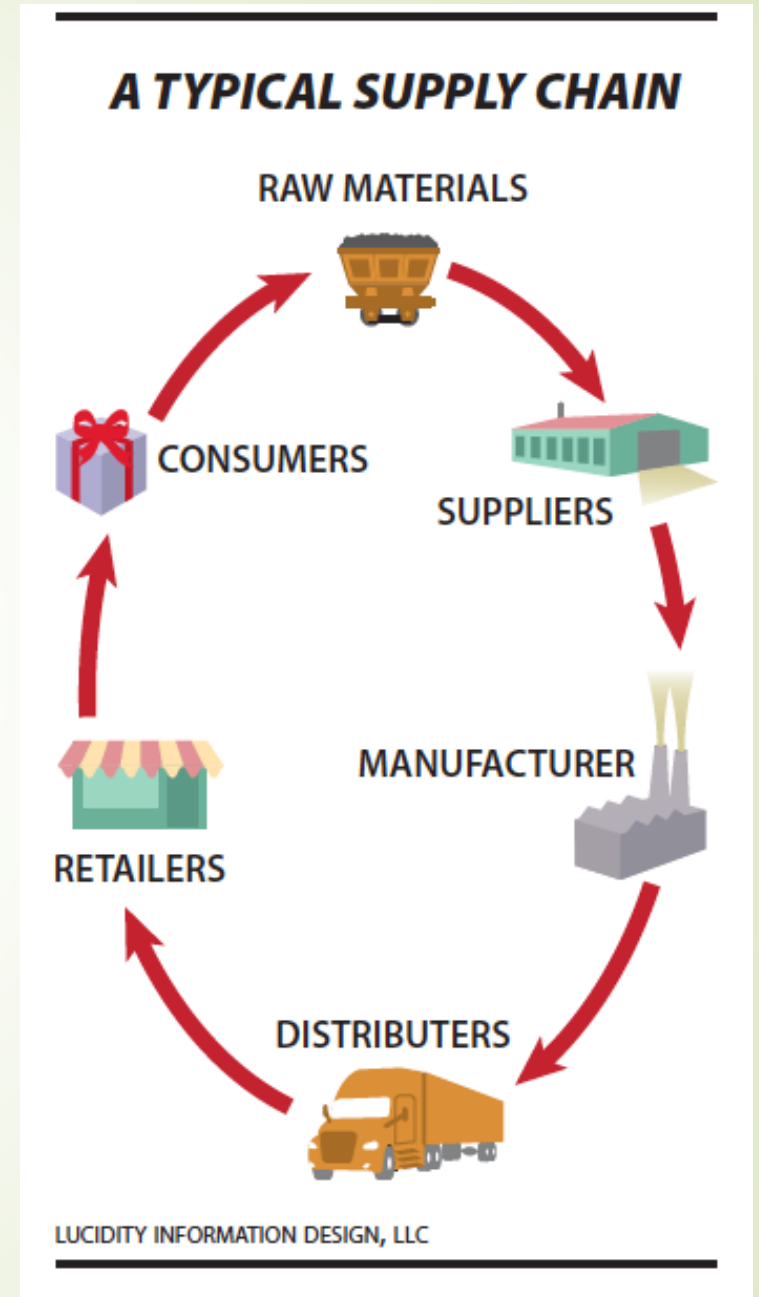
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CHAPTER 1

*Global Supply Chains (GSCs)
& National Security*

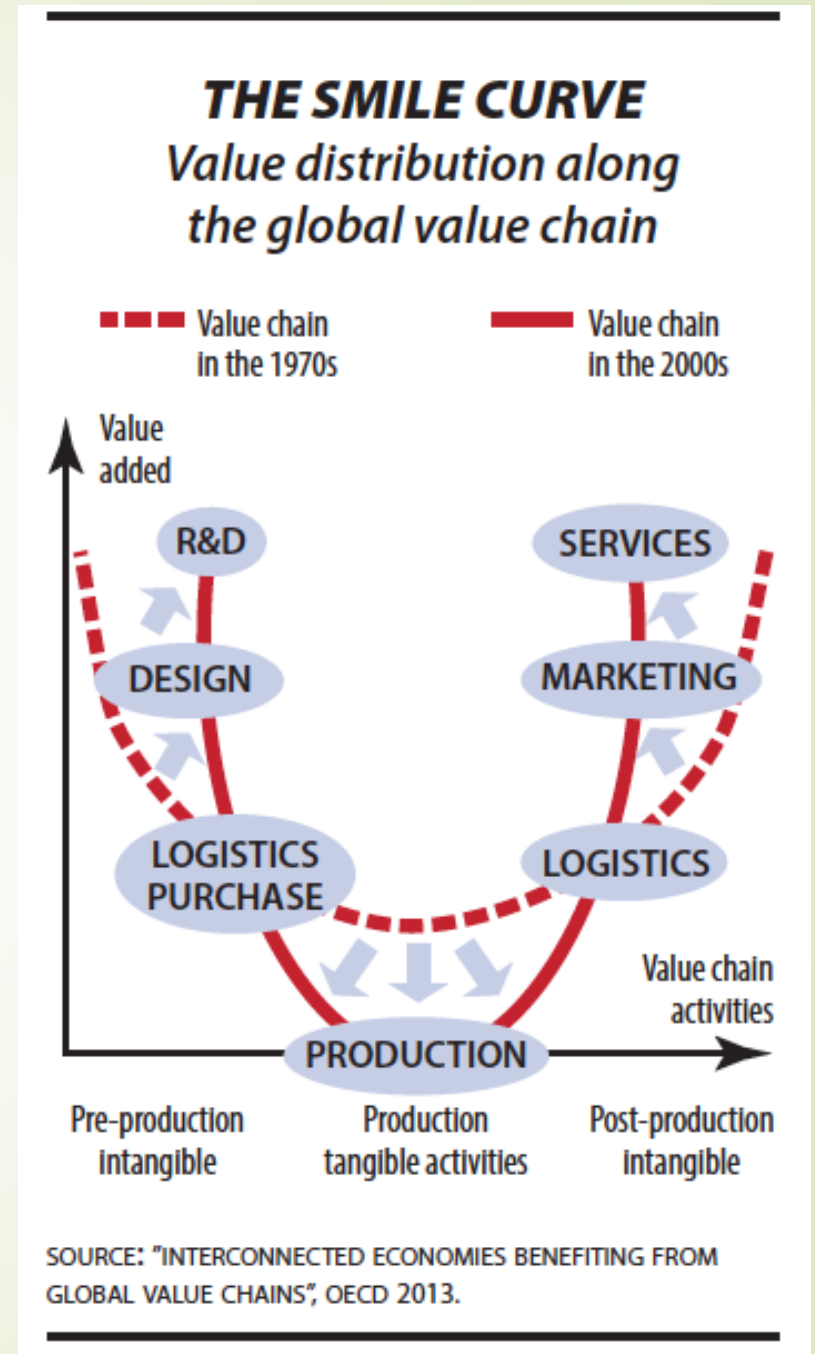
What is a Supply Chain?

- ➔ **Supply Chains** describe the steps necessary to bring products and services to a customer.
- ➔ The **chain metaphor** is useful because the entire operation is only as strong as its weakest link.



Shift in Value-Added Calculus 1970s→2000s

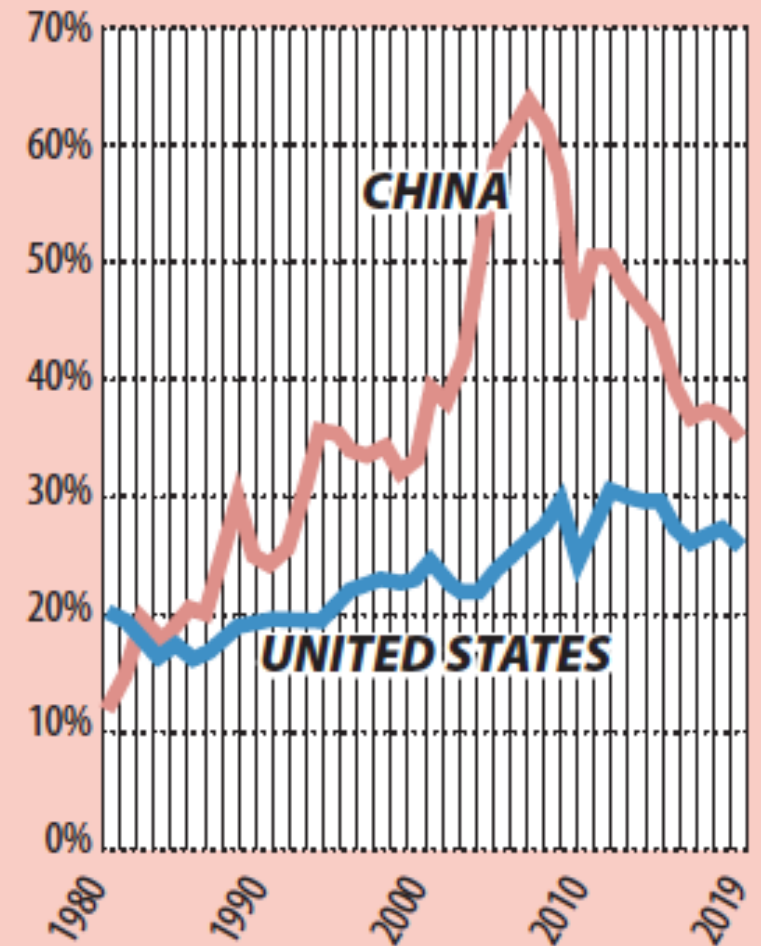
- ➔ Manufacturing is the least-profitable step in the supply chain, and it has become even less so in recent decades.
- ➔ Innovations in information & communications technology in 1980s & 90s allowed MNCs to move production to locations with lower production costs.



China as “Mega-Trader”

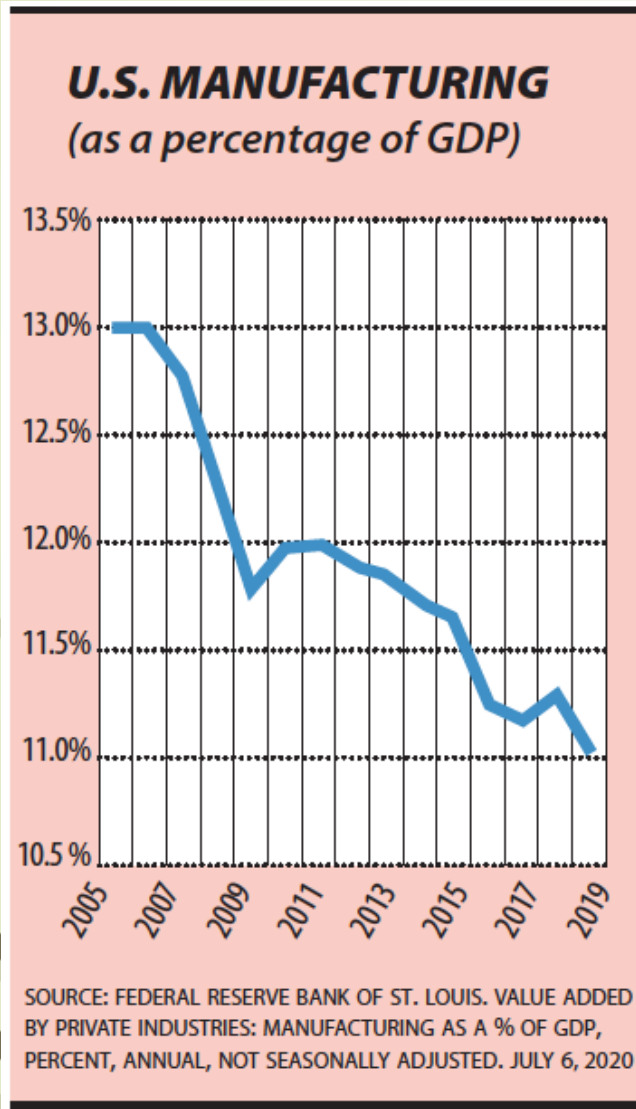
- ➔ At its peak in 2008, trade was **62% of China’s GDP**.
- ➔ No other country has come close to this level of trade dominance.
- ➔ The highest previously was Great Britain in the height of its empire before WWI.

U.S. AND CHINA TRADE
1980 – 2019 (by % of GDP)

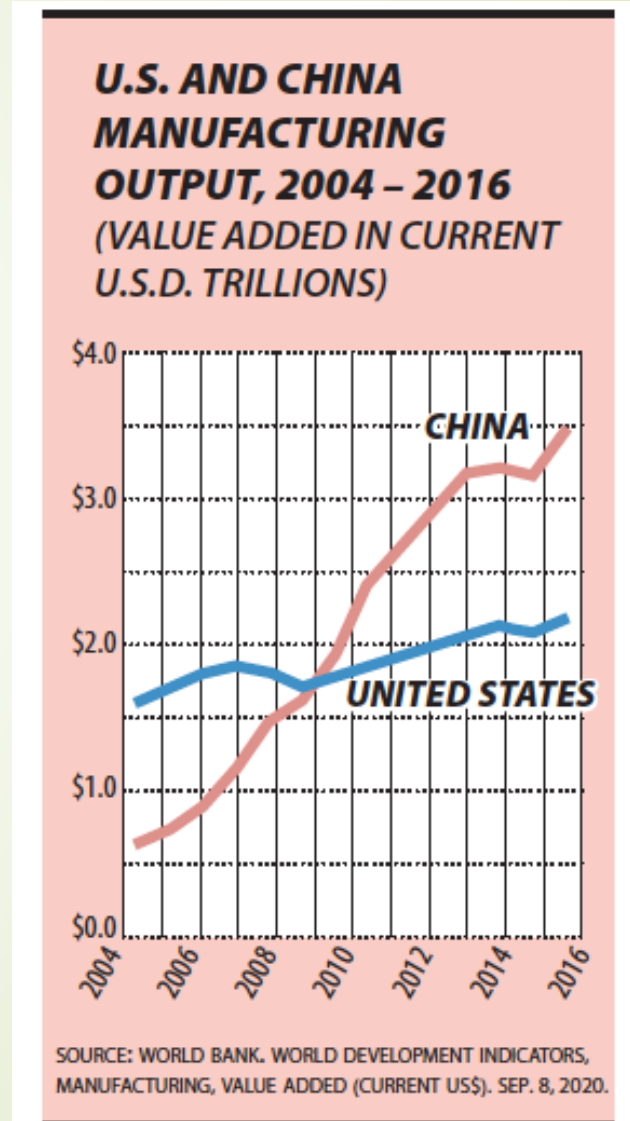


SOURCE: WORLD BANK. WORLD DEVELOPMENT INDICATORS,
TRADE AS PERCENT OF GDP. SEP 8, 2020.

China as “Manufacturing Superpower”



- ➔ From 2002→2018, 60,000 out of 350,000 (17%) U.S. factories closed.
- ➔ China was the main beneficiary of this “offshoring.”



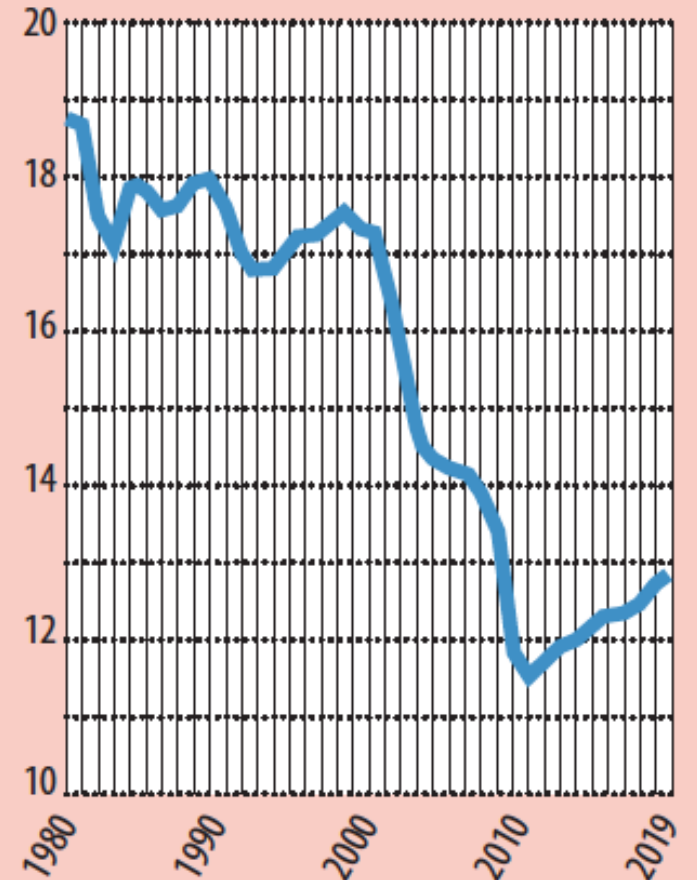
Domestic Winners & Losers from Trade

Consumers ↑ Real household incomes rise as prices lowered.



Manufacturing Employees ↓
When factories close, retraining and other adjustment mechanisms take time or never manifest.

U.S. MANUFACTURING EMPLOYEES (in MILLIONS)



SOURCE: FEDERAL RESERVE BANK OF ST. LOUIS. ALL EMPLOYEES, MANUFACTURING, THOUSANDS OF PERSONS, ANNUAL, SEASONALLY ADJUSTED. SEP 16, 2020

Some Existing U.S. GSC Vulnerabilities

- **Bulk Power Supply Equipment** – Since 2009, ~85% of all newly-purchased transformers by U.S. power operators were manufactured abroad.
- **Military Surveillance Cameras** – the DoD installed Chinese-made surveillance cameras on domestic and overseas military bases.
- **Small Drones** – 74% of this market is dominated by a Chinese manufacturer.
- **Railcars** – The U.S. no longer manufactures passenger railcars.
- **Rare Earth Elements** – The U.S. is 100% dependent on imports, though it is currently developing one REE mine.



Some Existing Chinese GSC Vulnerabilities

- **Semiconductors** – In 2019, China imported over 80% of the computer chips it needed for manufacturing, largely from the U.S.
- **Satellites** – China has deployed advanced communications from the U.S. in support of their military.
- **Basic Scientific Research** – China has been aggressive in acquiring American science to support its industrialization, largely through partnerships with U.S. universities (sending students and funding projects)

Three Policy Options with China

- **Renewed Engagement** – Work within the WTO to resolve conflicts and hold China accountable to WTO rules. Antagonistic approaches backfire.
- **Decoupling** – Stricter export controls, restrictions on Chinese inbound investment & U.S. investment in China, and relocating critical supply chains.
- **Industrial Policy** – Government support for targeted industrial sectors. Historically, this approach has proven ineffective and prone to abuse, though the GM/Chrysler bailout is cited as a counter-example.